CALULATIONS FOR EGG CAR PROJECT

To calculate the amount of force your car experiences when stopping, you will assume your deceleration time is 0.25 seconds. The following equations and conversions will be used:

**CONVERSIONS**

**CONVERT GRAMS TO KILOGRAMS**

To convert grams into kilograms, divide by 1000 (or simply move the decimal to the left 3 place values).

1kg = 1000g

**CONVERT CENTIMETERS TO METERS**

To convert centimeters into meters, divide by 100 (or simply move the decimal to the left two place value).

1m = 100cm

**CALCULATIONS**

1. Average speed: Distance between the two reference points divided by the time it takes the car to travel from reference point 1 to reference point 2

Distance (cm)

= Speed (cm/sec)

Time (sec)

1. Deceleration rate: CONVERT YOUR DISTANCE (cm) INTO METERS (m). Divide speed by the deceleration time

= Deceleration rate (m/s2)

Speed (m/s)

Deceleration time (0.25 sec)

1. Force: CONVERT THE MASS OF YOUR CAR (g) INTO KILOGRAMS (Kg). Using the F=MA equation, multiply the mass of you car by the deceleration rate

Mass (Kg)

= Force (N)

Deceleration rate (m/s2)